CLAIMS

What is claimed is:

1. 1. A method of seismic data processing, the method comprising:

   (a) using a seismic source for propagating seismic waves into an earth
   formation and receiving a signal indicative of a property thereof, said
   signals resulting from interaction of said seismic waves with the earth
   formation;

   (b) defining a plurality of wavelets characteristic of said received signal;

   (c) determining a particular one of said plurality of wavelets most
   characteristic of said received signal, and

   (d) adding said particular one of said plurality of wavelets to a select list of
   wavelets.

2. 2. The method of claim 1 wherein defining said plurality of wavelets further
   comprises performing a wavelet transform of said received signal.

3. 3. The method of claim 1 further comprising:

   (i) subtracting from said received signal a weighted particular one of said
   plurality of wavelets, giving a subtracted signal,

   (ii) determining an additional particular one of said plurality of wavelets most
   characteristic of said subtracted signal, and

   (ii) adding said additional particular one of said plurality of wavelets to said
   select list of wavelets.

1   4.   The method of claim 3 further comprising subtracting from said subtracted signal

2   a weighted additional particular one of said plurality of wavelets, and iteratively

3   repeating steps (ii) and (iii).

1   5.   The method of claim 4, further comprising obtaining a time-frequency

2   representation of said signal.

1   6.   The method of claim 5 further comprising determining an absorption coefficient

2   from said time-frequency representation.